

From domestic to global? Recent trends in environmental liability from a multilevel and comparative law perspective

Article (Accepted Version)

Orlando, Emanuela (2015) From domestic to global? Recent trends in environmental liability from a multilevel and comparative law perspective. *Review of European, Comparative & International Environmental Law*, 24 (3). pp. 289-303. ISSN 2050-0394

This version is available from Sussex Research Online: <http://sro.sussex.ac.uk/id/eprint/57200/>

This document is made available in accordance with publisher policies and may differ from the published version or from the version of record. If you wish to cite this item you are advised to consult the publisher's version. Please see the URL above for details on accessing the published version.

Copyright and reuse:

Sussex Research Online is a digital repository of the research output of the University.

Copyright and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable, the material made available in SRO has been checked for eligibility before being made available.

Copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

From Domestic to Global? Recent Trends in Environmental Liability from a Multi-level and Comparative Law Perspective

Emanuela Orlando*

The law of environmental liability has already been the object of several comparative endeavours. This article seeks to bring a different perspective to the debate, by examining selected developments in the field through the lens of the emerging global environmental law scholarship. It brings the comparative method of analysis into a multi-level context with a view to identifying the emergence of common legal responses to the problem of liability and reparation for environmental harm across different jurisdictions and regulatory levels. The analysis will focus on a 'novel' set of environmental liability regimes, which specifically address damage to the environment and to natural resources, as distinct from more traditional categories of damage to property and other individual rights arising as a consequence of environmental pollution. These include: the United States Comprehensive Environmental Response, Compensation, and Liability Act, and the Oil Pollution Act, which constitute a pioneering attempt to envisage a public law-oriented system of liability and restoration for damage to natural resources; the European Union Environmental Liability Directive; and selected, recent international treaty developments. The article argues that, while adopted within different legal orders and regulatory contexts, these environmental liability regimes share common features, which correspond to the ontological aspects of environmental damage and ultimately reflect a common understanding of the environment as a global public good.

INTRODUCTION

The question of devising appropriate and effective rules on liability and redress for environmental damage has been the object of an intense and longstanding debate across different jurisdictions. At the international level, this issue moved up on the environmental agenda since the 1972 United Nations Conference on the Human Environment in Stockholm, when States decided to include the further development of 'international law regarding liability and compensation for the victims of pollution and other environmental damage' among the future priority areas for international cooperation in the environmental field.¹ In the following years, the International Law Commission embarked on a difficult and lengthy exercise aimed at the progressive development and codification of a set of general rules on the international liability of States for the harmful consequences arising out of hazardous activities.² At the same time, the prospective adoption of appropriate procedures for the determination of liability and compensation for environmental harm was included as a *pactum de contrahendo* provision in several international conventions.³

Despite those scholarly efforts and political commitments, however, the international community has constantly struggled to achieve consensus over a set of generally applicable and legally binding international rules on environmental liability.⁴ But while the definition of general international law norms on liability and redress for environmental harm still appears at an embryonic stage,

* Corresponding author.

Email: e.orlando@sussex.ac.uk

¹ Stockholm Declaration on the Human Environment, found in: Report of the UN Conference on the Human Environment (UN Doc. A/CONF.48/14, 16 June 1972).

² Working Group on International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law, in: 'Report of the International Law Commission on the Work of its Thirtieth session, 8 May-28 July 1978', 2:2 *Yearbook of the International Law Commission*, (1978), 1.

³ T. Scovazzi, 'State Responsibility for Environmental Harm', 12 *Yearbook of International Environmental Law* (2002), 43, at 44.

⁴ A. Boyle, 'Globalising Environmental Liability: the Interplay of National and International Law', 17:1 *Journal of Environmental Law* (2005), 3.

significant developments taking place through sector-specific international conventions, regional instruments, national legislation and judicial decisions have contributed to raise novel perspectives on the scope and role of liability rules in the environmental context. The recognition of the intrinsic value of natural resources and the inclusion of the public and collective dimension of ecological damage into the scope of application of traditional private law-based liability rules feature as the most distinctive traits that characterize current developments in this area of the law.

This article aims to capture the evolving normative developments in the field of liability and redress for environmental damage by providing a comparative and multi-level analysis of recent legislative developments at the national, European and international level. It focuses on a ‘novel’ set of environmental liability regimes specifically addressing damage to the environment and to natural resources, as distinct from more traditional categories of damage to property and other individual rights arising as a consequence of environmental pollution. These include: the United States (US) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or ‘Superfund’,⁵ and the Oil Pollution Act (OPA),⁶ which constitute a pioneering attempt to envisage a public law-oriented system of liability and restoration for damage to natural resources; the European Union (EU) Environmental Liability Directive,⁷ which draws inspiration from the American example; and selected, recent international treaty developments.

The article argues that, while adopted within different legal orders and regulatory contexts, this ‘new’ generation of environmental liability regimes shares common features, which correspond to the ontological aspects of environmental damage and ultimately reflect a common understanding of the environment as a global public good. From a regulatory and governance perspective, they manifest a gradual move towards complementing traditional private law-based remedies with public law-oriented solutions focusing on the restoration of the impaired natural resources and the re-establishment of the ecological balance. Adopting a global environmental law approach to the analysis of the interaction and reciprocal influences between the different legal orders and regulatory levels, the article concludes by reflecting on the prospective development of international law in the complex field of environmental liability.⁸

THE EVOLVING SCOPE OF ENVIRONMENTAL LIABILITY: FRAMING METHODOLOGICAL APPROACHES TO THE ANALYSIS IN A MULTI-LEVEL CONTEXT

Liability and compensation for environmental damage have for long time been addressed mostly in an indirect fashion, by relying on concepts and principles of civil liability already available in domestic systems. Thus, in most European jurisdictions and in the US private law norms on civil liability or the common law of torts have in the past represented the primary vehicle to claim reparation when environmental pollution interfered with the enjoyment of private property rights or caused personal injuries. Recourse to civil liability litigation has also been a popular option in case of transboundary environmental pollution, in order to fill the gaps left by the absence of an appropriate and effective international legal framework on international responsibility for environmental harm.⁹ In recent decades, however, growing environmental concerns and the

⁵ Comprehensive Environmental Response, Compensation, and Liability Act (‘CERCLA’), 42 USC §§ 9601ff.

⁶ Oil Pollution Act (‘OPA’), 33 USC §§ 2701ff.

⁷ Directive 2004/35/EC of 21 April 2004 on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage, [2004] OJ L143/56 (‘Environmental Liability Directive’).

⁸ T. Yang and R.V. Percival, ‘The Emergence of Global Environmental Law’, 36:1 *Ecology Law Quarterly* (2009), 615.

⁹ In Europe, one of the earliest and often-cited cases decided by the Court of Justice of the EU, involving the transnational application of civil liability rules in a case of cross-border pollution, is CJEU, Case C-21/76, *Handelskwekerij G.J. Bier v. Mines Potasse d’Alsace SA*, [1976] ECR 1735. At the international level, a civil liability

increasing awareness of the intrinsic value of the environment and of natural resources have prompted the need for new and more specific approaches to the question of environmental liability. A distinctive trait that characterizes more recent developments is the recognition of harm to the ecological components of the environment and to natural resources as a separate category of compensable damage, distinct from the more traditional categories of damage to property and personal injury arising as a consequence of environmental pollution.

The inclusion of environmental components among the interests protected by environmental liability rules has raised a whole new set of issues concerning the scope of application and the underlying objectives of environmental liability. It became clear that the specificities of environmental damage could not easily be addressed through the classic private law structures of tort law or civil liability.¹⁰ First, there are fundamental limits related to the range of interests which the law of civil liability or tort have originally been conceived to address. Protection of the environment or the maintenance of good environmental quality are not among the primary objectives of civil liability. This, in turn, has implications for the identification of the subjects entitled to have standing in cases where significant impairment to environmental quality is at stake, and on the range of available remedies. The requirement of a necessary link between civil liability actions and the existence and infringement of an individual right does not fully match with the broader environmental objective to claim reparation for damage to public spaces and unowned natural resources.¹¹ Case law in the United Kingdom has highlighted the difficulty to extend the right to claim an action in private nuisance beyond the sphere of the directly affected individuals with a proprietary right on the affected land.¹² Furthermore, the remedies normally available under the common law of torts or civil liability may not necessarily coincide with the interests in the protection of the environment. From an environmental perspective, restoration of the environment to the conditions prior to the damage, or the availability of measures aimed at achieving as far as possible an equivalent result, appear as a more effective remedy than monetary compensation. But even if monetary compensation were applicable, the translation of ecological damage in monetary terms can become a very difficult task, given that most natural resources, such as wildlife and biodiversity, do not have a market value.

These and similar questions have for a long time confronted domestic courts dealing with environmental pollution claims and lawmakers attempting to define appropriate regimes of environmental liability. The solutions thus far range from the adjustment of classic civil liability rules to accommodate environmental considerations, to the development of *ad hoc* and specific regimes of liability and reparation for damage to natural resources. The role of courts in this respect is not to be underestimated. There are several examples in which domestic judges faced with claims regarding environmental pollution have creatively managed to stretch the boundaries of applicable laws in order to accommodate environmental concerns.¹³ In some cases, their decisions have fed,

approach is prominent in several international conventions establishing uniform liability regimes for damage caused by pollution occurring during the operation of hazardous activities (see further below).

¹⁰ There has been a wide and longstanding doctrinal debate on the application of tort law and civil liability to pursue environmental objectives. See, e.g., M. Lee, 'Tort, Regulation and Environmental Liability', 22:1 *Legal Studies* (2002), 33; P. Cane, 'Are Environmental Harms Special?', 13:1 *Journal of Environmental Law* (2001), 3; J. Lowry and R. Edmunds (eds.), *Environmental Protection and the Common Law* (Hart Publishing, 2000).

¹¹ E.H.P. Brans, *Liability for Damage to Public Natural Resources: Standing, Damage and Damage Assessment* (Kluwer Law International, 2001). See also the decision of the US Court in the Amoco Cadiz case, in *Re Oil Spill by the Amoco Cadiz off the Coast of France (Parts 1 and 2)*, MDL Docket No. 376, 1988, in which the Court in response to a claim by a French local authority for wildlife killed by the oil spill from the Amoco Cadiz tanker held that 'this claimed damage is subject to the principle of *res nullius* and is not compensable for lack of standing of any person or entity to claim therefor'. *Ibid.*, at 394.

¹² See, e.g., *Hunter v. Canary Wharf Ltd.*, [1997] 2 WLR 684.

¹³ Attempts have been made to overcome some of the difficulties faced by environmental nongovernmental organizations and public interest groups wishing to bring a civil law case in a situation of environmental harm. In the

even only indirectly, into the elaboration of statutory schemes of environmental liability at the national and international levels.¹⁴ In other instances, judicial developments at the domestic level have triggered the revision of existing international law instruments.¹⁵ This reflects a process of gradual interaction between domestic and international law in the quest towards appropriate responses to the questions of liability and reparation for damage to natural resources and to the environment.

From this perspective, the use of the comparative law method in the analysis of the different regulatory approaches and case law developments at the national and international level proves particularly helpful in tracing common patterns across different jurisdictions and different liability regimes. For example, the comparative analysis of Anglo-American jurisprudence and other EU jurisdictions reveals an interesting convergence among the various legal systems' attempts to refine the existing rules of civil liability in order to overcome the substantial hurdles faced by private victims of environmental pollution when establishing the link of causation or the defendant's fault.¹⁶ Particularly in the wake of industrial modernization and the proliferation of environmentally harmful activities, countries in Europe and in the US have developed specific systems of strict liability for hazardous activities, although the scope of application of those specific rules is in practice quite different.¹⁷ At the international level, the comparative analysis of several international civil liability conventions offers an interesting example of how specific solutions adopted in one treaty system – namely the concept of environmental damage provided by the 1992 Oil Pollution convention¹⁸ – have been retained and transferred to other conventional liability regimes.¹⁹

There is an already extensive comparative legal scholarship examining how different jurisdictions have sought to elaborate appropriate responses to the specific features of environmental harm.²⁰ Interestingly, those comparative studies are not limited to the 'horizontal' analysis of environmental liability legislation in different domestic systems, but increasingly adopt a 'vertical' comparative perspective, featuring references to relevant international law developments. Therefore, those studies represent a good source for the identification of best practices in the definition of

Borcea case, for example, the District Court of Rotterdam has held that civil suits for damage are acceptable where the organization has incurred reasonable clean-up costs. See *Borcea*, District Court Rotterdam, 15 March 1992, 23 *Netherlands Yearbook of International Law* (1992), 513; see also G. Betlem, 'Standing for Ecosystems – Going Dutch', 54:1 *Cambridge Law Journal* (1995), 153.

¹⁴ National courts have in several cases recognized natural resource damage as a separate category, even independently from a specific statutory provision to that effect. See the decision of the US Court in the case *Puerto Rico v. SS Zoe Colocotroni*, 628 F.2d 652 (1st Circ. 1980). The decision had impact on subsequent case law and on the revision of the administrative regulations on natural resource damage assessment under CERCLA. See R. Wolfrum and C. Langenfeld, *Environmental Protection by Means of International Liability Law* (Enrich Schmidt, 1999), at 327-331.

¹⁵ A. Bianchi, 'Harm to the Environment in Italian Practice: the Interaction of International Law and Domestic Law', in: P. Wetterstein (ed.), *Harm to the Environment: the Right to Compensation and the Assessment of Damages* (Clarendon Press, 1997), 103, commenting on the influence of the Italian courts' decision in the *Patmos* case on the revision of the definition of damage under the Civil Liability Convention on Oil Pollution Damage.

¹⁶ See generally M. Wilde, *Civil Liability for Environmental Damage: Comparative Analysis of Law and Policy in Europe and the US*, 2nd edn (Wolters Kluwer, 2013); for a comparative analysis of developments in Europe, see M. Hinteregger, *Environmental Liability and Ecological Damage in European Law* (Cambridge University Press, 2008).

¹⁷ H. Bocken, 'Developments with Respect to Compensation for Damage Caused by Pollution', in: B. Markesinis (ed.), *The Gradual Convergence (Foreign Ideas, Foreign Influences and English Law on the Eve of 21st Century)* (Oxford University Press, 1994), 226.

¹⁸ Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage (London, 7 November 1992; in force 30 May 1996) ('1992 Protocol').

¹⁹ L. De La Fayette, 'The Concept of Environmental Damage in International Liability Regimes', in: M. Bowman and A. Boyle (eds.), *Environmental Damage in International and Comparative Law: Problems of Definition and Valuation* (Oxford University Press, 2002), 150.

²⁰ See, e.g., M. Wilde, n. 16 above; M. Hinteregger, n. 16 above; E.H.P. Brans, n. 11 above; M. Bowman and A. Boyle, n. 19 above; G. Betlem and E. Brans (eds.), *Environmental Liability in the EU: The 2004 Directive Compared with US and Member States Law* (Cameron May, 2006).

appropriate responses to the problem of environmental damage, particularly in relation to the structure of liability regimes, the available mechanisms of redress, as well as the methodologies for valuation and assessment of environmental harm.

Building upon these findings, this article uses a comparative law approach in the multi-level analysis of liability regimes for natural resource damage in order to examine a more recent development, namely the transposition of regulatory models not only horizontally across different jurisdictions but also vertically across different legal orders. Global environmental law provides an appropriate conceptual and methodological framework for this comparative exercise.²¹ By contrast to traditional comparative scholarship, a global environmental law approach allows the drawing of analogies between different regulatory levels, thereby enabling a better understanding of the reciprocal influences and mutual interaction across different levels of governance in the definition of responses to common problems.²² Therefore, it offers an appropriate framework to explore the progressive translation of concepts and solutions elaborated at the domestic level up to the supranational and international level, and to assess the increasing degree of interaction between different actors (courts, lawmakers, the private sector and civil society) and different regulatory levels (domestic and international, public and private) in shaping the evolving role of environmental liability as a tool for environmental protection.

DOMESTIC PERSPECTIVES ON LIABILITY FOR ENVIRONMENTAL HARM: THE US APPROACH

The first steps towards the development of a statutory liability regime specifically covering damage to natural resources and to the ecological components of environment are found at the national level. The United States CERCLA of 1980 and the OPA of 1990 are two pioneering examples of an advanced environmental liability framework, which departs from the private law and individual dimension of tort remedies to explicitly address damage to natural resources and to the environment in their public and collective dimension.²³ Notwithstanding their different material scope of application – respectively covering harm to natural resources arising as a consequence of the release of hazardous waste and other toxic substances into the environment (CERCLA), and as a consequence of a discharge of oil into the marine environment (OPA) – the two liability statutes share several common features and underlying objectives. They both originate from the US Congress' dissatisfaction with the limited ability of tort law to address wider damage to natural resources and the public components of the environment.²⁴ To overcome those limits, both statutes introduce a public, administrative law mechanism of liability, which combines some of the features of tort liability with the broader objective of providing a structured and effective system for the containment, clean-up and management of the hazardous release of toxic substances or oil into the environment. Thus, besides specific provisions on compensation for environmental damage, liability under both CERCLA and OPA also includes the costs of response action, such as clean-up and the removal of hazardous substances and oil.

However, the most distinctive and innovative feature of US statutory liability law remains its provisions concerning the recovery for natural resources injury. In both statutes, the concept of natural resources is broadly defined to include 'land, fish, wildlife, biota, air, water, ground water,

²¹ See T. Yang and R. V. Percival, n. 8 above.

²² For global environmental law as a helpful methodological framework in comparative analysis, see also E. Morgera, 'Bilateralism at the Service of Community Interests? Non-Judicial Enforcement of Global Public Goods in the Context of Global Environmental Law', 23:3 *European Journal of International Law* (2012), 743, at 746.

²³ Prior to CERCLA and OPA, strict liability for environmental damage was also introduced in the federal Water Pollution Control Act (or Clean Water Act) of 1972.

²⁴ See E.P.H. Brans, n. 11 above, at 65.

drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States ..., any State or local government or Indian tribe, or any foreign government'.²⁵ This definition has been interpreted as including all those natural resources whose protection reflect a public interest and that are therefore subject to management or control of public authorities, irrespective of whether they are public or privately owned. Coherently with the public law dimension of the damage, CERCLA and OPA confer a pivotal role in the process of natural resource damage recovery to the trustees. These are public authorities of federal and state government, of Indian tribes and of foreign governments specifically empowered to present claims to recover injuries to natural resources under their jurisdiction on behalf of the public.²⁶ Thus, while CERCLA and OPA do not rule out the possibility for private parties to bring claims for property or personal injury under general rules of tort law,²⁷ they do not grant private persons the right to claim damages for injury to natural resources.

This idea of public authorities as primary responsible for taking action for natural resource damage was not completely novel, but built upon the ancient US common law doctrines of public trust and *parens patriae*. Those doctrines already provided public authorities with the power to protect and manage natural resources on behalf of the citizens. However, their translation into the specific context of environmental liability has allowed to overcome the substantial difficulties of tort law in relation to the identification of appropriate subjects entitled to claim compensation for damage to the environment in the absence of specific individual personal or property rights. Furthermore, the conferral to public authorities of specific powers to claim reparation for environmental damage has contributed to address the limitations of the individualized and case-by-case response offered by civil liability lawsuits to pursue more publicly-oriented aspirations of environmental protection. In tort law, there is no obligation for a private claimant to pursue a claim in the public interest or to use the money received as compensation to remediate environmental damage.²⁸ Thus, the private individual's discretion as to whether ultimately to bring a claim and how to spend the compensation eventually obtained tends to make the private law tool of civil liability an unpredictable instrument in terms of achieving environmental effectiveness.²⁹ In contrast to the private law paradigm, under CERCLA and OPA, trustees are bound to use all the sums recovered for the restoration of the impaired natural resources, their replacement or the acquisition of equivalent resources.³⁰

The trustees are also directly involved in the process of damage assessment and in the identification and definition of the most appropriate restoration measures. The process for the determination and quantification of damage to natural resources under CERCLA and OPA is defined in the Natural Resources Damage Assessment (NRDA) regulations, enacted respectively by the Department of Interior³¹ and the Department of Commerce's National Oceanic and Atmospheric Administration.³² Here, the environmental law underpinning of CERCLA and OPA is reflected in the progressive departure from a monetary evaluation of environmental damage based on the diminished value of natural resources to a restoration-based approach, whose ultimate aim is to return the injured natural

²⁵ OPA, n. 6 above, Section 1001(20); a similar definition is found in CERCLA, n. 5 above, Section 101(16).

²⁶ CERCLA, n. 5 above, Section 107(f); OPA, n. 6 above, Section 2076(a).

²⁷ OPA also provides a separate cause of action for damage to land or personal property.

²⁸ See M. Lee, n. 10 above, at 41-42.

²⁹ S. Rose-Ackermann, 'Public Law versus Private Law in Environmental Regulation: European Union Proposals in the Light of United States Experience', 4:4 *Review of European Community and International Environmental Law* (1995), 312.

³⁰ See E.P.H. Brans, n. 11 above, at 74.

³¹ Natural Resource Damage Assessments, 43 CFR 11 (2004).

³² Natural Resource Damage Assessments, 15 CFR 990 (1997).

resources as far as possible to the baseline conditions.³³ OPA explicitly provides that natural resource damage be measured on the basis of the costs of restoring, rehabilitating, replacing or acquiring the equivalent of the damaged natural resources, and on the costs for the assessment of the damage.³⁴ Furthermore, in line with the perspective of repaying the public for the whole value of the impaired natural resources, CERCLA and OPA include compensation for the interim losses of resources from the time of the incident until the full recovery. Under OPA, a restoration-based approach is also the preferable method for the valuation of such interim losses. The recognition of the loss of natural resources services is very relevant, as it implicitly acknowledges the inherent value of natural resources and their importance for the public and for other resources and ecosystems.

From an environmental protection perspective, a restoration-based approach aimed at returning the natural resources as far as possible to the conditions prior to the damage or at replacing them with alternative resources is preferable. It directly addresses injury to natural resources and it is the method that best accounts for the uniqueness of each particular resource.³⁵ From a pragmatic point of view, as restoration costs are easier to estimate, it allows the bypassing of the difficulties and complexities in placing a monetary value on natural resources, thereby addressing the criticisms aimed at the various available economic valuation methodologies. However, from an economic and cost-benefit perspective, it has been argued that the downside of a restoration and replacement methodology is that the costs of restoration may in some case significantly exceed the value of natural resources or, conversely, may underestimate the biophysical damages suffered by natural resources; similarly, in some circumstances restoration costs may not entirely reflect the social and cultural value of natural resources, as these elements are not always predictable;³⁶ indeed, especially in the case of off-site restoration, where the impracticability to achieve full restoration of the injured resources lead to replace them with equivalent resources at an alternative location, the benefits would not necessarily accrue to the affected population living in the original location of the damage.

Despite the ongoing discussions on these points, and notwithstanding the shortcomings and difficulties that emerged during the implementation and application of OPA and CERCLA, the US environmental liability statutes can be considered as a landmark development in the evolution of environmental liability. Their provisions have offered a valuable solution to the very complex question of quantification and assessment of ecological damage; as discussed in the following sections, they have contributed to the inclusion of the ecological components of the environment and the value of natural resource services in the context of liability regimes adopted in other jurisdictions.³⁷ From a comparative perspective, it is interesting to note that the US environmental liability regime was not the sole example of a public law approach to the question of environmental harm. In Italy, around the same time of the adoption of CERCLA, the shift from the ordinary tort law approach to environmental pollution to a more direct form of legal protection of environmental

³³ J.T. Ryan, 'The Evolution of Natural Resource Damage Assessments under the Oil Pollution Act and the Comprehensive Environmental Response, Compensation and Liability Act', 6:1 *Fordham Environmental Law Review* (2011), 29.

³⁴ OPA, n. 6 above, Section 1006(d)(1).

³⁵ J. Peck, 'Measuring Justice for Nature: Issues in Evaluating and Litigating Natural Resources Damages', 14:2 *Journal of Land Use and Environmental Law* (1999), 275, at 283. See also, in a comparative perspective, P. Sands and R.B. Stewart, 'Valuation of Environmental Damage – US and International Law Approaches', 5:4 *Review of European Community and International Environmental Law* (1996), 290.

³⁶ See on this J. Boyd, 'Lost Ecosystem Goods and Services as a Measure of Marine Damages', in: M. Faure, H. Lixin and S. Hongjun (eds.), *Maritime Pollution Liability and Policy: China, Europe and the US* (Kluwer Law International, 2010), 55.

³⁷ See also R.V. Percival, K.H. Cooper and M.M. Gravens, 'CERCLA in a Global Context', 41:4 *Southwestern Law Review* (2012), 727.

values took place, in a slightly different fashion compared to the US.³⁸ Under the Italian legislation, the State and its local subdivisions, as trustees for the community, were entitled to pursue claims for environmental damage occurred through a violation of a legal or administrative provision of environmental protection. Remedies consisted of the restoration of the environment to the state prior to the occurrence of the damage or, if that was not feasible, monetary compensation calculated by the judge on the basis of an equitable appraisal.

FROM THE NATIONAL TO THE SUPRANATIONAL LEVEL: THE EU DIRECTIVE ON ENVIRONMENTAL LIABILITY

Shifting from the domestic to the supranational level, in the EU the development of a specific regime of liability and reparation for environmental damage has been the result of a long and notoriously difficult process which lasted almost ten years. During this process, the European Commission produced various drafts and several studies, and consulted widely with academia and other relevant stakeholders from the environmental and business communities. The final text of the Environmental Liability Directive was eventually adopted in April 2004. The new liability instrument aimed to fill an important gap left by the absence of a harmonized system of secondary rules on liability and reparation for environmental damage.

Compared to the early harmonization efforts proposed in the late 1980s and early 1990s,³⁹ and essentially focussed on the waste management sector, the Directive represents a significant departure in terms of objectives and structure of the liability regime. The legal basis of the Directive⁴⁰ revealed already a move away from the internal market concerns that prompted initial Community intervention in the field, towards more genuine environmental law objectives. Leaving aside the wider doctrinal debate concerning the regulatory functions of liability and whether and to what extent it can fulfil goals of prevention and deterrence, it was clear from the beginning that the new liability instrument was intended to pursue broader EU policy objectives in addition to the classic functions of providing compensation and ensuring redress for environmental harm.⁴¹ In the Commission's view, an EU-wide environmental liability regime would contribute to the effective implementation of the polluter-pays principle, as one of the fundamental principles of EU environmental policy,⁴² while at the same time boosting private operators' compliance with environmental norms. In this respect, the establishment of a scheme of private operators' liability is also a response to prominent concerns about the poor implementation and enforcement of EU environmental law, and reflected the Commission's commitment in the Fifth Environmental Action Programme (1993-2002) to diversify its regulatory approach.⁴³

Looking at the process of development and elaboration of the EU environmental liability regime is particularly interesting in order to identify the external regulatory and legislative developments that contributed to shape the final text of the Directive. Indeed, while the European Commission and the

³⁸ Law 8 July 1986 no. 349, in Gazz. Uff. No. 162, 15 July 1986, Suppl. Ord. No. 59. See also A. Bianchi, 'The Harmonisation of Laws on Liability for Environmental Damage in Europe: An Italian Perspective', 6:1 *Journal of Environmental Law* (1996), 21, at 22-26.

³⁹ European Commission, Proposal for a Directive on Civil Liability for Damage Caused by Waste, COM(89) 282; and European Commission, Proposal for a Directive on the Landfill of Waste, COM(93) 275. Both directives were repealed in 2001.

⁴⁰ Consolidated Version of the Treaty on the Functioning of the European Union, [2012] OJ C326/47, Article 192.

⁴¹ See M. Lee, 'The Changing Aims of Environmental Liability', 14:4 *Environmental Law and Management* (2002), 189.

⁴² European Commission, Explanatory Memorandum to the Proposal for a Directive on Environmental Liability, COM(2002) 17; see also Environmental Liability Directive, n. 7 above, at preamble, paragraph 2.

⁴³ European Commission, Towards Sustainability – A European Community Programme of Policy and Action in Relation to the Environment and Sustainable Development, [1993] OJ C138/7.

European Parliament were debating about the scope and modalities of EU intervention in the field, a number of parallel developments were taking place at the international level, in several EU Member States and in several Commonwealth jurisdictions, particularly the US.⁴⁴ At the international level, the States that were members of the Council of Europe adopted the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano Convention) in 1993.⁴⁵ This Convention played a major role in determining the course of action of EU initiatives in the field, and initially also became a possible model for a future EU Directive. However, towards the final round of discussions, which led to the adoption of the Directive, it was particularly the US CERCLA that played a decisive influence in shaping the shift towards an administrative approach to liability.⁴⁶

Similarly to CERCLA and OPA, the Directive aims to set up a system for the remediation of environmental damage, which combines environmental restoration measures with preventive and response actions applicable in case of imminent threat of damage.⁴⁷ Its public law focus emerges from the concept of environmental damage, which is framed to exclude traditional forms of damage to private property or persons. The Directive applies exclusively to damage to protected habitats and species, water and land caused within the territory of the EU Member States during the operation of hazardous activities, irrespective of whether these are subject to ownership. Damage to water and to protected habitats and species are defined with reference to relevant EU secondary legislation, namely the Water Framework Directive⁴⁸ and the Habitats and Birds Directives.⁴⁹ Finally, land contamination assumes relevance insofar as it creates a significant risk for human health. The Directive further defines the concept of ‘damage’ as ‘a measureable adverse change in a natural resource or measurable impairment of a natural resource service, which may occur directly or indirectly’.⁵⁰ It focuses on accidental types of damage, both major accidents and small incidents, which cause or threaten to cause significant harm to natural resources in Europe. However, in contrast to the US statutes, strict liability is applicable only in relation to damage caused by the hazardous activities listed in Annex III to the Directive, whereas a fault-based liability applies for operators of other occupational activities, with the latter being limited to damage to habitats and species.⁵¹

The influence of the US system is particularly evident in the Directive’s provisions concerning the recovery of damage to natural resources and the assessment and valuation of damage. The Directive sets up an administrative scheme of environmental liability, which confers a central and almost

⁴⁴ For an analysis of how other ‘external’ factors had influenced the elaboration of a Community liability regime, see C. Clarke, ‘The Proposed EC Liability Directive: Half-way Through Co-decision’, 12:3 *Review of European Community and International Environmental Law* (2003), 254, at 257.

⁴⁵ Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano, 21 June 1993; not yet in force).

⁴⁶ B. Jones, ‘European Commission: Proposal for a Framework Directive on Environmental Liability’, 14:1 *Environmental Law and Management* (2002), 5.

⁴⁷ However, there remain important differences between the US statutes and the EU Directive. In particular, in contrast with CERCLA, the Directive does not provide for retroactive application, and its strict liability is more limited, whereas CERCLA applies to all releases of hazardous substances. Furthermore, the Directive does not require, but simply encourages, EU Member States to establish any sort of financial security or fund to cover restoration and clean-up costs although this issue is presently being object of further study by the Commission. See European Commission, Report from the Commission under Article 14(2) of Directive 2004/35/CE on Environmental Liability, COM(2010) 581; see also Bio Intelligence Service *et al.*, *Study to Explore the Feasibility of Creating a Fund to Cover Environmental Liability and Losses Occurring from Industrial Accidents, Final Report* (European Commission, 2013).

⁴⁸ Directive 2000/60/EC of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, [2000] OJ L327/1.

⁴⁹ Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, [1992] OJ L206/7; Directive 2009/147/EC of 30 November 2009 on the Conservation of Wild Birds, [2010] OJ L20/7.

⁵⁰ Environmental Liability Directive, n. 7 above, Article 2.2.

⁵¹ *Ibid.*, Article 3.

exclusive role to the competent authorities appointed in the various Member States in the enforcement of the liability provisions against the operator in control of the activities that has given rise to environmental damage. The primary enforcement power of the competent authorities, acting *de facto* as public trustees for the environment, is combined with the provision of specific duties for the operator in relation to the public interest in the prevention and remediation of environmental harm. Under the Directive, the responsible operators are under an obligation to prevent, notify and manage environmental damage, and may be ordered to do so by the competent authority.⁵² The duty of prevention arises mainly in relation to an imminent threat of damage and includes the obligation to take response measures to minimize and contain the damage.⁵³ In addition to these primary duties, the Directive also imposes ‘secondary’ duties of bearing the costs of both preventive and remediation measures.⁵⁴

The Directive therefore replaces the adversarial approach and the triangular ‘plaintiff-judge-defender’ relationship typical of civil liability schemes with a bilateral relation between the operator and the competent authority. Furthermore, by placing specific duties on the operator to inform the competent authority, the Directive envisages a dynamic relationship between the public bodies (the State) and the polluter, opening the possibility for dialogue, consultation and cooperation. Dialogue and consultation occur especially in the identification and implementation of the remedial measures,⁵⁵ and in this sense it vaguely echoes the system of cooperative assessment of the damage in the US NRDA regulations.⁵⁶

Like in the US liability statutes, an important feature of the Directive is its focus on the restoration of environmental damage. The criteria for assessing and restoring environmental damage are spelled out in Annex II and constitute an important part of the liability scheme laid down by the Directive. As far as damage to natural habitats and species and damage to water is concerned, the Directive distinguishes different levels of remediation measures, which take inspiration from OPA and the NRDA regulations. Primary remediation, consisting of the restoration of natural resources and services to their baseline conditions, is the priority. If this option is not feasible, then restoration of the environment is achieved through the introduction of a similar level of natural resources, even at an alternative site (complementary remediation). Like OPA and CERCLA, the Directive also provides for compensatory remediation for interim losses of natural resources services pending recovery. Furthermore, the terminology used in Annex II of the Directive, as well as the structure of the damage assessment procedure are fairly similar to the US NRDA regulations.⁵⁷ For example, similarly to OPA, Annex II proposes to scale compensatory restoration measures in relation to the primary restoration measures, thereby taking into account the level and speed of recovery of natural resources and services under primary remediation.

⁵² *Ibid.*, Articles 5-6.

⁵³ For a comment on the difference between the Directive and OPA on this point, see L. Jing, M. Faure and W. Hui, ‘Compensating for Natural Resource Damage Caused by Vessel-Induced Marine Oil Pollution: Comparing the International, U.S., and Chinese Regimes’, 29:1 *Journal of Environmental Law and Litigation* (2014), 123, at 149, highlighting that under OPA there is a distinction between removal costs and damages, whereas in the Directive both emergency response and restoration are part of the same concept of ‘environmental damage’.

⁵⁴ There are, however, cases in which the operator is freed from bearing the costs, such as when the operator can prove that the damage or imminent threat thereof has been caused by a third party or resulted from compliance with a compulsory order or instruction emanating from a public authority; see Environmental Liability Directive, n. 7 above, Article 8.3 of the Directive. The operator is also freed from primary duties when the activity was authorized in the public interest in accordance with the conditions laid down by the Habitats and Birds Directives, as well as the Water Framework Directive.

⁵⁵ *Ibid.*, Article 7.2.

⁵⁶ See, however, E. Brans, ‘Liability for Damage to Public Natural Resources under the 2004 Environmental Liability Directive – Standing and Assessment of Damages’, in: G. Betlem and E. Brans, n. 20 above, 189, at 211, who argues that the NRDA approach is much more cooperative than the one in the Directive.

⁵⁷ *Ibid.*, at 205.

Overall, one of the main merits of the Directive is that it has drawn the attention of various EU Member States to the importance of recognizing and compensating ecological damage to natural resources, thereby contributing to a minimum common framework within the EU.⁵⁸ On the other hand, the Directive's narrow scope of application with respect to the definition of damage, the lack of a more active role for nongovernmental organizations and public interests groups, and the absence of a subsidiary duty of public authorities to take remedial action, in case of failure to do so by the operator, significantly curtail the effectiveness of the Directive.⁵⁹ Furthermore, the broad language of its provisions leaves much of its actual impact to the transposition and implementation in the various Member States. Despite these limitations, the Directive still had the positive impact of contributing to the affirmation of the notion of 'ecological damage' or 'natural resource' damage at the international level, resulting in a gradual shift towards a public law and restoration-based approach to damage to natural resources in more recent international conventions.

FROM THE DOMESTIC TO THE INTERNATIONAL LEVEL: PAST AND CURRENT TRENDS IN INTERNATIONAL ENVIRONMENTAL LIABILITY CONVENTIONS

CIVIL LIABILITY APPROACHES TO ENVIRONMENTAL HARM IN INTERNATIONAL TREATIES

In contrast to the developments in the US and the EU, where the legal recognition of ecological damage has gradually translated into the establishment of *ad hoc* environmental liability regimes, the question of liability and reparation for damage to natural resources in international law had originally been addressed in a rather incidental fashion within the broader context of liability rules aimed at providing prompt and adequate compensation for private victims of environmental pollution. Absent a liability regime tailored to address natural resources damage, discussions on the ecological and natural resource dimension of environmental harm and relevant mechanisms of redress in international law had mainly taken place in the international practice related to the definition of international norms of liability for damage caused during the operation of hazardous activities. In this respect, the most remarkable international law development has been the negotiation and adoption of international treaties establishing uniform systems of private operators' liability for pollution damage occurring during the operation of certain hazardous activities. These are essentially private international law instruments setting up common legal frameworks for the transnational application of civil liability by domestic courts. The underlying objectives and the structure of these treaties reflect basic principles of civil liability. Their main aim is to ensure smooth access to prompt and equitable compensation to victims of environmental pollution.⁶⁰ At the same time, they also signal a move towards a distributive justice approach to the function of tort law in the context of damage caused by high-risk, yet lawful and socially beneficial, industrial activities.⁶¹

Although originally designed as private compensation mechanisms, rather than being directly concerned with environmental protection, these liability regimes have progressively incorporated environmental considerations into the definition of compensable damage. The 1992 Protocol amending the 1969 Convention for Civil Liability for Oil Pollution Damage has been the first

⁵⁸ For an analysis of the limits and opportunities offered by the Directive, see G. Winter *et al.*, 'Weighing Up the EC Environmental Liability Directive', 20:2 *Journal of Environmental Law* (2008), 163.

⁵⁹ For a critique of the Directive, see L. Krämer, 'Discussions on Directive 34/2005 Concerning Environmental Liability', 2:4 *Journal of European Environmental and Planning Law* (2005), 250.

⁶⁰ R. Churchill, 'Facilitating (Transnational) Civil Liability Litigation for Environmental Damage by Means of Treaties: Progress, Problems, and Prospects', 12 *Yearbook of International Environmental Law* (2002), 3.

⁶¹ J. Barboza, *The Environment, Risk and Liability in International Law* (Martinus Nijhoff Publishers, 2011), at 36. For an analogous move in domestic systems, see M. Wilde, n. 16 above, at 149.

international liability regime to broaden the scope of compensable damage beyond personal injury and damage to property to encompass ‘compensation for impairment of the environment’, albeit limited to the ‘costs of reasonable measures of reinstatement actually undertaken or to be undertaken’.⁶² Furthermore, by extending the notion of ‘incident’ to cover any occurrence which ‘creates a grave and imminent threat of’ causing oil pollution damage, the Protocol makes clear that compensation includes the costs of preventive measures taken prior to the actual spill to prevent and mitigate further damage.⁶³ Compared to the reactive stance of civil liability, this combination of reparation duties and preventive measures contributes to framing environmental liability as a mix of compensation and *ex post* prevention, which appear more appropriate to the specificities of environmental pollution. In relation to claims for environmental damage, however, the International Oil Pollution Compensation (IOPC) Fund – i.e. the Fund established pursuant to the IOPC Fund Convention to supplement the liability scheme under the Convention⁶⁴ – has consistently clarified that the civil liability regime for maritime oil pollution would only allow claims for quantifiable economic losses which are reasonable, and for the measures that were objectively reasonable at the time they were taken.⁶⁵

This formulation, which has provided the blueprint for the liability provisions under treaty regimes subsequently adopted in other areas of hazardous activities and has been retained with some variations in subsequent civil liability treaties,⁶⁶ has contributed to consolidate an international conventional practice whereby compensation for environmental damage is admissible, but should be restricted to damage which can be determined in precise monetary term.⁶⁷ Such an approach retains the merit of avoiding complex questions concerning the monetary valuation and assessment of pure ecological damage and the diminution in value of natural resources. From the perspective of the IOPC Fund compensation regime it also allows for striking a balance between the inclusion of environmental concerns into the scope of compensable damage and preserving the Fund from a flood of excessive liability claims for environmental harm from governments, environmental organizations and individuals, which would hamper compensation prospects of private victims.⁶⁸ From a broader environmental protection perspective, however, confining compensation to the costs of restoration measures would leave aside irreparable damage to natural resources as well as the interim losses experienced meanwhile the damage is being mitigated by natural regeneration.⁶⁹ In a global context of increased sensibility for the intrinsic values of natural resources and the collective relevance of the environment, it does not come as a surprise that the narrow approach of the IOPC

⁶² 1992 Protocol, n. 18 above, Article 1.6(a).

⁶³ *Ibid.*, Article 1.6, read in conjunction with Article 1.8. See also the International Oil Pollution Compensation (IOPC) Fund 1992, ‘Claims Manual’ (IOPC Fund, 2013), found at: <http://www.iopecfunds.org/uploads/tx_iopecpublications/claims_manual_e.pdf>, at 27, specifying that ‘clean up operations at sea and on shore are in most cases considered as preventive measures since such measures are usually intended to prevent or minimise pollution damage’ and that ‘compensation is also paid for the costs of mobilising clean-up equipment and salvage resources for the purpose of preventive measures even if no pollution occurs, provided that the incident created a grave and imminent threat of causing pollution damage and on the condition that the measures were in proportion to the threat posed’.

⁶⁴ Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (London, 27 November 1992; in force 30 May 1996).

⁶⁵ See IOPC Fund, n. 63 above.

⁶⁶ See L. De La Fayette, n. 19 above.

⁶⁷ See T. Scovazzi, ‘Maritime Accidents with Particular Emphasis on Liability and Compensation for Damage from the Exploitation of Mineral Resources of the Seabed’, in: A. de Guttry *et al.* (eds.), *International Disaster Response Law* (T.M.C. Asser Press, 2012), 287, at 301.

⁶⁸ M. Mason, ‘Civil Liability for Oil Pollution Damage: Examining the Evolving Scope for Environmental Compensation in the International Regime’, 27:1 *Marine Policy* (2003), 1, at 4.

⁶⁹ D. Wilkinson, ‘Moving the Boundaries of Compensable Environmental Damage Caused by Marine Oil Spills: The Effect of Two New International Protocols’, 5:1 *Journal of Environmental Law* (1993), 71; D. Ibrahima, ‘Recovering Damage to the Environment Per Se following an Oil Spill: the Shadows and Light of the Civil Liability and Fund Conventions of 1992’, 14:1 *Review of European Community and International Environmental Law* (2005), 63.

Fund generated frictions with more expansive regimes of environmental liability in certain domestic jurisdictions and the progressive attitude of some municipal courts.⁷⁰ It is interesting to remark on this point that the US OPA had been enacted as a reaction to the restrictive approach to liability under the Civil Liability Convention, and the consequent decision of the US government not to adhere to the international regime for oil pollution damage.

But there are also the more general considerations related to the suitability and appropriateness of using civil liability to address the special features and specific problems related to environmental pollution in an international context. In particular, the *ex post* and reactive nature typical of civil liability claims did not appear fully appropriate to cope with more complex situations of environmental emergencies that require the adoption of prompt response measures aimed to minimize further damage and to prevent as far as possible the damage and contamination caused by the accident from spreading further. Although the Civil Liability Convention and subsequent treaties include compensation for the costs of preventive measures, the decision to take such measures is ultimately left up to the private operator or the government or public authorities if present at the moment of the incident, but there is no specific obligation to take those measures.

Finally, from a more general perspective, the poor ratification rate of most civil liability conventions started to raise concern as to whether the negotiation of further liability treaties is appropriate and desirable.⁷¹ The lack of support for the entry into force of the Lugano Civil Liability Convention – to date the only multilateral convention establishing a comprehensive civil liability regime for a wide range of hazardous and industrial activities – has raised significant doubts as to whether States are prepared to find agreement and endorse a comprehensive harmonization of their domestic systems of civil liability for environmental harm at the global level. These considerations formed the basis for the progressive departure from a civil liability approach, which also addresses traditional damage, towards an administrative/regulatory approach to liability, focused particularly on environmental impairment and loss of natural resources.

TOWARDS A REGULATORY FRAMEWORK FOR ENVIRONMENTAL LIABILITY IN INTERNATIONAL LAW

The opportunity to consider an alternative approach to the question of environmental liability at the international level arose for the first time in relation to the negotiation of a liability regime for Antarctica. Article 16 of the Madrid Protocol on Environmental Protection to the Antarctic Treaty envisaged the adoption of rules and procedures on liability for damage arising from activities taking place in the Antarctic Treaty area to be included as Annexes forming integral part of the Protocol itself.⁷² It was clear from the beginning that the prospective liability regime should take into consideration the special legal and factual characteristics of the continent. For a number of reasons, the private law approach retained in many civil liability treaties could not provide a useful source of inspiration.⁷³ In particular, the objective of the Antarctic liability framework to provide for comprehensive protection of the Antarctic environment and its associated ecosystems, is rather different from the one pursued by the civil liability conventions, primarily concerned with the compensation of private victims. Furthermore, the ‘public’, international dimension of Antarctica as a territory shielded from sovereignty claims and therefore from the exercise of traditional State

⁷⁰ M.C. Maffei, ‘The Compensation of Ecological Damage in the Patmos Case’, in: F. Francioni and T. Scovazzi (eds.), *International Responsibility for Environmental Harm* (Graham & Trotman, 1991), 381; see also E.P.H. Brans, ‘Liability and Compensation for Natural Resource Damage Under the International Oil Pollution Conventions’, 5:4 *Review of European Community and International Environmental Law* (1996), 297.

⁷¹ See R. Churchill, n. 60 above, at 41.

⁷² Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 4 October 1991; in force 14 January 1998).

⁷³ F. Francioni, ‘Liability for Damage to the Common Environment: the Case of Antarctica’, 3:4 *Review of European Community and International Environmental Law* (1994), 223.

jurisdiction, rendered the elaboration of a liability regime different from the more common situation of transboundary environmental damage in another State's territory.⁷⁴ Finally, the remote location of Antarctica and the uniqueness and fragility of its environment required the elaboration of *ad hoc* response measures which, besides clean-up and restoration, would also provide for certain kind of preventive measures to avoid further damage as well as concrete means of prompt reaction against incidents occurring in the area and threatening serious damage to the Antarctic environment.

In light of those considerations, the Antarctic Liability Annex, adopted in 2005, establishes a system of liability allowing for prompt response action to minimize the impact of environmental emergencies.⁷⁵ In terms of structure and approach to liability, the Annex departs slightly from the application of the classic civil liability framework common to the other environmental liability treaties in favour of a regulatory solution which places the primary responsibility to enforce the response mechanism on the State party of the operator responsible for the accidental event resulting in an imminent threat of significant harmful impact on the Antarctic environment.⁷⁶ Article 5 requires parties to order each operator to take prompt and effective response action, including clean-up actions, in case of environmental emergencies. Pursuant to Article 6, an operator's liability arises in the event of failure to comply with the obligation to take response action. In this case, the operator needs to pay the relevant amount either to the party that undertook the response action or, if no response action was taken, to a special fund set up by the Annex. In the event of the operator's failure to take the response action, Article 5 encourages the State party of the operator and the other parties to step in and take such action. To address the question related to standing and territorial jurisdiction, the Annex entitles the party that has taken the response action to file a liability claim against the operator in the domestic court of the party where the operator is incorporated or has its principal place of business. To this effect, Article 7 requires parties to ensure that a mechanism is in place under their domestic law for the enforcement of the liability provisions and that their courts possess the necessary jurisdiction to entertain the relevant action. If, on the other hand, the operator is a State agent, the Annex provides for the establishment of an international dispute settlement procedure either by arbitration or in the International Court of Justice.

The major limitation of the liability regime put in place for the Antarctic continent relates to its narrow scope of application, which is limited to the costs of response action but does not include an obligation to undertake restoration measures.⁷⁷ This leaves out the situation of irreparable damage to the environment, as well as the case of environmental damage not caused by an environmental emergency, such as the gradual accumulation of harmful effects, or the intentional destruction of habitats. Furthermore, it does not provide for a specific residual liability of the State party, but merely encourages States to take action in the event of operator's failure to act. However, given the unique set of circumstances surrounding the elaboration of a liability framework for Antarctica, the Liability Annex offers an innovative design for a liability regime aimed at protecting public spaces. The Liability Annex also signals a gradual move towards a regulatory approach to environmental liability. From a comparative perspective, it is interesting to observe that around the same time when the Liability Annex was negotiated and discussed, the EU was proceeding with the adoption

⁷⁴ The preamble to the Antarctic Treaty (Washington DC, 1 December 1959; in force 23 June 1961) expressly refers to the role of the continent for scientific research in the interest and progress of all mankind. Article IV of the treaty freezes current and future sovereignty claims over the continent, thereby foreclosing the exercise of traditional State territorial jurisdiction.

⁷⁵ Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty, Liability Arising from Environmental Emergencies (Stockholm, 17 June 2005; not yet in force).

⁷⁶ For an analysis of the Liability Annex, see P. Vigni, 'A Liability Regime for Antarctica', 15 *Italian Yearbook of International Law* (2006), 214.

⁷⁷ This was mostly the result of the decision, during the negotiating process, to adopt a 'step-by-step' approach, given the difficulty to reach agreement on a more comprehensive liability regime; see D. MacKay, 'The Proposed Antarctic Treaty on Environmental Damage', 6 *ILSA Journal of International and Comparative Law*, (2000), 473.

of the Environmental Liability Directive, which had brought about a paradigmatic shift from a civil to an administrative, public-law approach in Europe.

A few years after the adoption of the liability regime for Antarctica, the idea of an administrative approach to liability for environmental harm gained further prominence at the international level in connection with the elaboration of an international regime on liability and redress for damage caused by transboundary movement of living modified organisms (LMOs). The Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress was adopted on 15 October 2010 in response to Article 27 of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity mandating State Parties to elaborate ‘international rules and procedures’ in the field of liability.⁷⁸ Consistent with the stated objective of contributing ‘to the conservation and sustainable use of biological diversity taking also into account risks to human health’,⁷⁹ liability under the Supplementary Protocol is primarily focused on addressing harm to the biological components of biodiversity, and their conservation and sustainable use, excluding traditional type of damage to private property or land.⁸⁰ With a formulation that echoes Article 2.2 of the Environmental Liability Directive, ‘damage’ is defined as a measurable and significant adverse effect on the conservation and sustainable use of biodiversity,⁸¹ while its significance is to be determined on the basis of factors including: the long-term or permanent change to biodiversity which cannot be redressed through natural recovery within a reasonable period of time; the extent of the qualitative and quantitative changes adversely affecting biodiversity components, and the reduction of the ability of those components to provide goods and services; and the extent of any adverse effects on human health.⁸²

The structure and enforcement of the liability mechanisms evoke the administrative approach to liability developed within the EU. The remedies include both preventive measures – which aim to prevent, minimize, contain, mitigate or otherwise avoid the damage – and action to restore biodiversity either ‘to the condition that existed before the damage occurred or its nearest equivalent’; furthermore, when *in situ* restoration is not feasible, operators are expected to replace biodiversity with species and genetic material that is functionally similar, either at the place where the damage occurred or as appropriate at an alternative location.⁸³

Like the Environmental Liability Directive, the Supplementary Protocol envisages the appointment of competent authorities, which would liaise with the operator in the event of a significant and measurable adverse effect on biodiversity. Under Article 5, the operator in control of the LMOs is liable to take all the appropriate response measures and to inform the competent authority, whereas the latter is responsible for identifying the operator who has caused the damage, evaluate the damage and determine the response measures to be taken. However, like in the Directive, if the operator fails to take the appropriate response measures, the competent authorities are merely enabled, but not required, to take the relevant measures and then recover the costs and expenses incurred from the operator.

⁷⁸ Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Cartagena, 29 January 2000; in force 11 September 2003), Article 27.

⁷⁹ Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety (Nagoya, 15 September 2010; not yet in force) (‘Supplementary Protocol’), Article 1.

⁸⁰ S. Jungcurt and N. Schabus, ‘Liability and Redress in the Context of the Cartagena Protocol on Biosafety’, 19:2 *Review of European Community and International Environmental Law* (2010), 197.

⁸¹ Supplementary Protocol, n. 79 above, Article 2.2(b).

⁸² *Ibid.*, Article 2.3.

⁸³ A. Telesetsky, ‘The 2010 Nagoya-Kuala Lumpur Supplementary Protocol: A New Treaty Assigning Transboundary Liability and Redress for Biodiversity Damage Caused by Genetically Modified Organisms’, 14 *American Society of International Law Insights* (2011).

This regulatory approach to liability in the text of the Supplementary Protocol has been referred to as signalling a paradigm shift in the evolution of international liability, at least in conventional international law.⁸⁴ In the negotiating process, an administrative approach to liability was particularly favoured by the EU delegation, which deemed it a more suitable solution to the primary purpose of the Protocol, i.e. the protection of the environment and biodiversity.⁸⁵ In practice, it was also the result of the difficulty to reach consensus among parties over a legally binding international instrument on substantive civil liability. In fact, whilst several developing countries clearly favoured the option of a binding civil liability regime, this was resisted by other States, especially Northern and developed countries, divided between those arguing for a completely non-binding instrument and others proposing a dual approach – a binding instrument based on an administrative approach, and a non-binding civil liability regime. The formation of a group of ‘Like-Minded Friends’ (around 80 developing countries plus Norway and including all of the African group) favoured the eventual achievement of a compromise agreement, which then provided the basis for the text of the Supplementary Protocol. Under this solution, civil liability is retained in one provision, Article 12, which requires parties to either provide in their domestic law for rules and procedures that address damage by response measures, or aim to provide remedies for material or personal damage associated with damage to biodiversity.

Overall, the text of the Supplementary Protocol looks like a compromise solution.⁸⁶ The provision on civil liability is very general and leaves many interpretative doubts concerning the type of traditional damage, which can be associated with the transboundary movement of LMOs.⁸⁷ Furthermore, the provisions of the Supplementary Protocol are significantly less detailed than the Environmental Liability Directive, as well as those of the international civil liability conventions in the field of maritime pollution and nuclear damage, thereby giving parties considerable discretion when implementing the substantive contents of liability for biodiversity damage in their domestic laws.⁸⁸ Furthermore, in contrast to the Environmental Liability Directive, the Supplementary Protocol does not expressly envisage its application in case of imminent threat of damage, although the inclusion of preventive response measures, and the reference to a sufficient likelihood of damage in the preamble implies that this situation is covered. For these reasons, the Supplementary Protocol has been criticized as reflecting a ‘diminished ambition’ in the development of international law in the field of environmental liability.⁸⁹

On the other hand, and more positively, from an international law perspective the provisions on response measures and environmental restoration in the Supplementary Protocol can be welcomed as a further step in the direction of moving international law away from a compensation-based approach limited to the reasonable measures of reinstatement, which are quantifiable in monetary terms, to a restoration-based approach encompassing more comprehensively the values of environmental components. Further developments in this direction have been made, although in a non-legally binding form, with the adoption of the Guidelines for the Determination of Liability and

⁸⁴ R. Lefeber, ‘The Legal Significance of the Nagoya-Kuala Lumpur Supplementary Protocol: The Result of a Paradigm Evolution’ (Amsterdam Law School, 2012).

⁸⁵ D. Tladi, ‘Civil Liability in the Context of the Cartagena Protocol: To Be or Not to Be (Binding)?’ 10:1 *International Environmental Agreements: Politics, Law and Economics* (2010), 15, at 20-21.

⁸⁶ *Ibid.*, at 22.

⁸⁷ G.S. Nijar, ‘The Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety: An Analysis and Implementation Challenges’, 13:3 *International Environmental Agreements* (2013), 271, at 277-278.

⁸⁸ For example, it gives significant discretion in deciding the scope of exemption, the definition of the causal link, the time limits for liability claims and the financial limits for the recovery of the costs of response measures taken by the competent authorities.

⁸⁹ C. Foster, ‘Diminished Ambitions? Public International Legal Authority in the Transnational Economic Era’, 17:2 *Journal of International Economic Law* (2014), 355.

Compensation for Damage Resulting from Pollution of the Marine Environment in the Mediterranean Sea Area.⁹⁰ Finally, the primary, and almost exclusive, focus on damage to biodiversity reflects a conceptualization of liability in international law as not only a tool to provide compensation to private victims of hazardous activities, but also as a significant component of environmental protection strategies.

CONCLUSIONS

The preceding comparative analysis of recent legal developments in the field of liability for harm to natural resources has aimed to illustrate a progressive path of convergence across the different legal orders – national, regional (European) and international – towards the coexistence of traditional schemes of civil liability with new regulatory models of liability based on a public, administrative approach to the recovery of damage to natural resources. Furthermore, using the methodological framework of global environmental law scholarship in such a comparative endeavour, this article has sought to more closely examine the reciprocal influences between different legal orders and to identify the emergence of common principles and common regulatory approaches. It has shown in particular how specific solutions and methodologies for the assessment and valuation of environmental damage and for the definition of the relevant remedies initially developed at the national level (i.e. CERCLA and OPA in the US), have been gradually ‘borrowed at the regional level, thus forming the basis for further developments in international treaty law. The analysis has also illustrated the progressive transplantation of a public interest and regulatory approach to liability, materialized in the conferral of specific enforcement action to the State and other public entities as trustee for the protection of the environment as a collective and public good. The analysis has focused in particular on the upward process of transplantation, from national to international law. Yet, the converse relationship of downward influence of international rules on domestic jurisdictions is not to be excluded,⁹¹ although perhaps it is at present much less evident in the field of environmental liability given the still fragmented international legal landscape.

This phenomenon of ‘internationalization’ or ‘transnationalization’ of norms and regulatory solutions is in large part a by-product of globalization processes, and is therefore not unique to the environment. Yet in the field of environmental protection it is also a sign of a universal concern for the environment and of an emerging global consensus on the relevance of protecting environmental values.⁹² In this respect, the use of a global environmental law approach in the comparative analysis is valuable as it not only allows for examining possible vertical borrowing and transplants of legal solutions from the national to the international level and vice versa, but it also enables us to acknowledge the complex dynamics of interaction between different regulatory levels, and the different actors and normative processes which contribute to the evolution of environmental law at the global level. In the field of environmental liability this interaction manifests itself not only in terms of the more deliberate transposition of models and principles from one legal order to another – such as in the case of the deliberate modelling of the Environmental Liability Directive upon the US Statutes – but more indirectly in the way developments at the domestic level trigger further

⁹⁰ Guidelines for the Determination of Liability and Compensation for Damage Resulting from Pollution of the Marine Environment in the Mediterranean Sea Area, in: Report of the Second Meeting of the Open-ended Working Group of Legal and Technical Experts to propose Appropriate Rules and Procedures for the Determination of Liability and Compensation for Damage Resulting from Pollution of the Marine Environment in the Mediterranean Sea Area (UN Doc. UNEP(DEPI)/MED WG.319/4, 17 September 2007). See also T. Scovazzi, ‘The Mediterranean Guidelines for the Determination of Environmental Liability and Compensation: The Negotiation for the Instrument and the Question of Damage that Can Be Compensated’, 13 *Max Planck Yearbook of United Nations Law* (2009).

⁹¹ J. B. Wiener, ‘Something Borrowed for Something Blue: Legal Transplants and the Evolution of Global Environmental Law’, 27:4 *Ecology Law Quarterly* (2001), 1295, at 1303, citing A.D. Tarlock, ‘The Influence of International Environmental Law on U.S. Pollution Control Law’, 21:3 *Vermont Law Review* (1997), 759.

⁹² See also T. Yang and Percival, n. 8 above, at 653.

moves at the international level and globally.⁹³ A comparative overview of environmental legislation in different countries around the world shows how an increasing number of States, including but not limited to EU Member States, are developing programmes for the remediation of environmental harm⁹⁴ and are gradually revising their national legislation to remove substantive and procedural obstacles encountered by private victims when pursuing transnational environmental claims. Interestingly, these legislative developments have been increasingly driven by more informal dynamics triggered by individuals, civil society and nongovernmental organizations in their concerted efforts to raise global environmental awareness and to obtain compensation for environmental harm against corporations in their home country and abroad.⁹⁵

Global environmental law thus captures the interplay and progressive blurring of the distinction between national and international law, and in this sense is a valuable complement to comparative legal scholarship in enabling an integrated approach to the analysis of environmental law developments.⁹⁶ A global approach to the study of environmental regulation also allows taking into account the coexistence and interaction of legislative frameworks and private regulatory initiatives in shaping environmental standards. Although for reasons of space constraints this has not been the object of this article, such interaction at the regulatory and norm-making level is evident in the field of environmental liability. For example, besides being actively involved in the shaping of the inter-governmental regime on oil pollution liability and compensation through the International Maritime Organization and the IOPC Fund, oil and shipping industries have also proactively regulated oil pollution liability and compensation themselves by setting up two distinct private regimes on oil pollution liability, TOVALOP (Tanker Owners Voluntary Agreement on Liability for Oil Pollution) and CRISTAL (Contract Regarding an Interim Settlement of Tanker Liability for Oil Pollution).⁹⁷ Most recently, during the discussions for the negotiation of an international liability regime for GMOs damage under the Cartagena Biosafety Protocol, six agro-biotechnology corporations presented their own private contractual system called 'Compact' aimed at covering the hypothetical damage caused by their products.⁹⁸ The system became operational in 2010. Although it did not have the effect of setting aside the governmental negotiations which eventually led to the adoption of the Supplementary Protocol, the Compact offers an alternative process aimed at providing a clear and efficient mechanism for a UN member State to file and process claims in the event of biodiversity damage caused by LMOs.⁹⁹ By joining the Compact, each member accepts responsibility to remediate biodiversity damage caused by the release of LMOs by that member.

One final question that remains to be addressed concerns the normative relevance of global environmental law from the perspective of the further development of international environmental law. In particular, further inquiry could shed light on whether and to what extent the gradual convergence among regulatory approaches and the emergence of common normative frameworks of a substantive and procedural nature contributes to the shaping of customary rules in the

⁹³ See also R.V. Percival, 'Liability for Environmental Harm and the Emerging Global Environmental Law', 25 *Maryland Journal of International Law* (2010), 37, for a discussion on how efforts to remove substantive and procedural obstacles in transnational private litigation for environmental harm in an increasing number of domestic jurisdictions can potentially promote the development of procedural norms for access to justice in environmental litigation at the global level.

⁹⁴ See R.V. Percival *et al.*, n. 37 above.

⁹⁵ *Ibid.*

⁹⁶ On the relationship and interaction between national and international law in the field of climate change liability, see M. Faure and A. Nollkaemper, 'International Liability as an Instrument to Prevent and Compensate for Climate Change', 26:2 *Stanford Environmental Law Journal* (2007), 123.

⁹⁷ J. Harrison, Regime Pluralism and the Global Regulation of Oil Pollution Liability and Compensation, 5:4 *International Journal of Law in Context* (2009), 379.

⁹⁸ See <www.biodiversitycompact.org>.

⁹⁹ A. Orsini, 'Business as a Regulatory Leader for Risk Governance? The Compact Initiative for Liability and Redress under the Cartagena Protocol on Biosafety', 21:6 *Environmental Politics* (2012), 960.

environmental field. The answer largely depends on the approach one takes to the formation of customary rules; to what extent conventional developments can be considered expressing *opinio juris* representative of customary rules,¹⁰⁰ and the possible role of national legislation and judicial authorities in the process of the formation of customary international law.¹⁰¹ With specific respect to the question of environmental liability, a further difficulty in providing a conclusive answer lies in the poor evidence of State support for a principle of international environmental liability at the global level. Nevertheless, both conventional developments and State practice, including practice at the national and the regional levels, and the dynamic interaction between different actors and regulatory levels, soft law and the work of international bodies, such as the International Law Commission¹⁰² and the UN Environment Programme,¹⁰³ are contributing to shaping international norms in this field and to better define the role of the States in relation to situations of environmental damage. It is still too early to reach a conclusive answer on whether the concept of environmental damage and the relevant remedies, as defined in domestic practice and in recent liability treaties, are assuming the status of customary rules. Nevertheless, it is possible to assert that those developments are concerted and significantly contributing to the further development of international law towards the full recognition of the value of environment and natural resources as a common collective good and the full acknowledgment of this value in the context of liability regimes and relevant remedial measures. It is ultimately up to those vested with the application of the law at the international level, such as international courts and adjudicatory bodies, to participate in this endeavour. As a first, positive sign in this respect, it is possible to mention the report and recommendations presented in 2005 by the Panel in charge of the question of the depletion of natural resources, under the UN Compensation Commission established by a UN Security Council Resolution to process claims and pay compensation for losses and damage suffered as direct result of Iraq's unlawful invasion and occupation of Kuwait.¹⁰⁴ The Panel did not consider that 'the exclusion of compensation for pure environmental damage in some international conventions on civil liability and compensation is a valid basis for asserting that international law prohibits compensation for such damage in all cases, even where the damage results from a wrongful act'.¹⁰⁵

Looking back at the promise made in 1972, this article has aimed to show how, over the past four decades, the law of environmental liability has undergone a significant evolution. Thus far, Principle 22 of the Stockholm Declaration has not translated into legally binding international norms of State liability for environmental damage. Nevertheless, a number of important normative developments and legislative initiatives taking place at the national, regional and international level are signalling an emerging international consensus that States are under an obligation to ensure the availability of prompt, adequate and effective remedies for environmental damage, including by providing apposite response action and restoration measures to address the ecological aspects and public law dimension of such damage. The next challenge will, then, be the effective implementation and judicial enforcement of this emerging international normative framework.

¹⁰⁰ R.B. Baker, 'Customary International Law in the 21st Century: Old Challenges and New Debates', 21:1 *European Journal of International Law* (2010), 173.

¹⁰¹ See J. Wiener, n. 91 above, 1302.

¹⁰² International Law Commission, Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities, in: Report of the International Law Commission on its Fifty-Eight Session (UN Doc. A/CN.4/L.686, 26 May 2006).

¹⁰³ UNEP, Guidelines for the Development of Domestic Legislation on Liability, Response Action and Compensation for Damage Caused by Activities Dangerous to the Environment (2010), found at: <<http://www.unep.org/environmentalgovernance/Portals/8/Guidelinesdomesticlegislation-FINAL.pdf>>.

¹⁰⁴ UN Security Council, Resolution 687 (UN Doc. S/RES/687, 8 April 1991).

¹⁰⁵ UN Compensation Commission, Report and Recommendations made by the Panel of Commissioners Concerning the Fifth Instalment of "F4" Claims (UN Doc. S/A.26/2005/10, 30 June 2005), at paragraph 58.